

# THE FREQUENCY, VOLUME 10, ISSUE 10

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## CITY OF HOUSTON 700 MHZ RADIO PROJECT UPDATE

### March 2012 — Radio Project Update

The radio project continues to progress. Forty-seven out of forty-eight RF sites have been installed as of March 1, 2012. The final site being installed is at Methodist Hospital and is still under construction. Thirty eight fixed network equipment sites have been inspected for R56 compliance, and twenty four fire stations have been audited for control station installs. The shared microwave network will be completely installed by mid April, and will be ready for a Functional Acceptance Test and inspection after initiating the Ethernet MPLS system turn-up. The sites CP Wisterwood and CP HO Clark now have AC Power, while CP Bellaire's power pole was finally set and the service is now being trenched. CP Brazoria is waiting for a final easement approval from the City of Alvin which is scheduled for 3-8-12, and the League City site is waiting on a permit pending the approval of the structural analysis which will allow us to complete work on the tower. Antenna and Line work at Methodist and TCB Chase was delayed due to weather. The only way to bring antennas to the roof at TCB Chase is by using the window washer unit, and it wasn't operating the scheduled day to bring it to the roof. A map of the microwave network and its progress has been included in this update on page 5.

Preparations for the high noise testing have begun with four HFD firefighters' voices recorded to create baseline consistency for the testing. Those recordings will be used to compare radio transmissions received with a XTS 5000 portable on the current system, and transmissions received with a APX 7000 over the 700MHz system. Next, hearing tests for a pool of 60 firefighters will begin in early March. Of those 60, 40 will actually be needed and asked to continue with the actual high noise testing as well as the coverage acceptance testing. These 40 firefighters will be asked to compare radio transmissions, and rate the quality of each of 8 specific fire-ground tests. As specified in the IAFC criteria, these sounds include items like a K12 saw or similar and other fire ground back ground sounds typical of today's firefighting environments. The voice will be recorded, but the powered up tools will be live. Those comparing the audio testing will be listening to these transmissions on the 700MHz frequencies that will be used in the public safety system later.



The CoH has successfully gained STAs for all COH 700 MHz frequencies and Motorola has begun optimization and testing of both the NE and NW zones of the new radio system. Motorola will continue simulcast optimizations as additional cells and zones become available. The HEC Dispatch center has had all dispatch consoles installed for HFD and all the HPD and Telemetry consoles have been wired and are ready to be placed in the consoles in the near future. The M2 Master switch that will control the General Services Government Layer (GGSL) deployed on 7 of the 48 RF sites used in the Public Safety layer, is ready for service and has been tested. Once the seven sites are connected via microwave, final coverage and functionality testing will begin. The IAH site has also been installed and houses the backup M3 Master site equipment a mirror image of the M3 Equipment Master site located at the HEC Master site. Coverage Acceptance Testing will begin on the M2, or Interim system, in the second quarter of 2012. After testing is completed and signed off on, general government services will migrate all their users from the existing single-site system onto the new seven site Interim GGSL Layer.

(March 2012 Radio Project Update continued on Page 5)

## PROJECT EVENTS

## PUBLIC SAFETY MOBILE INSTALLS



The first tangible part of the radio transition that those in the police and fire departments will see, are the new mobiles installed in vehicles. HFD vehicles went first with over 500 radios installed, and HPD is currently undergoing installations with over 1,000 radios installed.

The next thing radio users in public safety will see, are the handhelds, when they are deployed. They're already getting anxious about being able to use these radios on the new radio systems.

The Interim system is nearing completion, and the general government employees will be the first to move onto the digital platform. These city employees in the various non-public safety departments have had their radios for several months. A meeting will be held in the spring where the main topic will be the logistics of cutting them over to the Interim system. Radio Communications wants the transition to be as smooth as possible.

After general government services cuts over, HFD will then cutover onto the Interim system. All radio users from fire have to do to make the switch, is move the little A-B-C switch on top of the radio from B to A. Once HFD has moved onto the Interim, the radio project will continue to put the finishing touches on the final 700MHz Public Safety Radio System. The goal is to get the fire department moved onto there by the end of the year. Police will then move onto the final system.

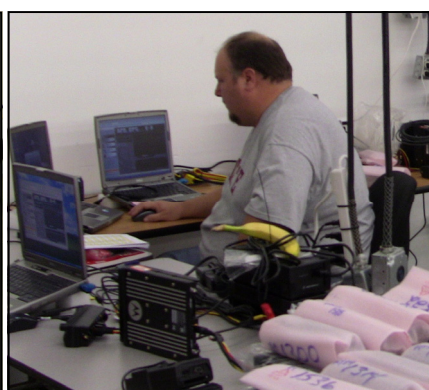
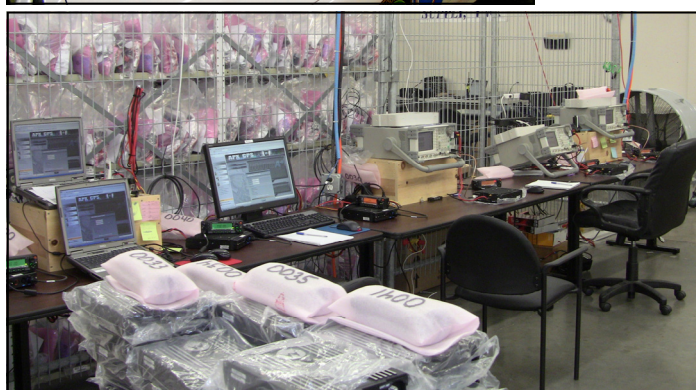
For those that haven't kept up with all the details of building the infrastructure of the radio system, seeing new radios installed is a huge task accomplished. Now, Radio Communications has a completely updated list of inventory of all the radios used at the city, with Radio IDs. That inventory is kept in the MCM database, and every radio will be tracked, including its work order history.

All of the fire radios are programmed the same, and exactly how the fire department decided they would be. Same with police, with a few exceptions for those in investigative or tactical roles, who will have access to encrypted talkgroups.

Fire, police and general government services will have processes in place if they ever want to make changes to the programming once on the new system. While changes in programming will be able to be made over the air, radio users whose radios are affected will need to be notified of those changes.



*Left, top to bottom: HFD ambulances start installations at the warehouse. Stacks of radios coming and going. Police vehicles in the warehouse lined up to get those mobiles replaced with new ones.*



*Each radio goes through multiple stations before installation. Pictured left: First, each radio has to be flashed, or the software to support the radio must be loaded. Center: Each radio is programmed so that the operations of every button is exactly how the fire and police departments asked for them to be. Right: Every radio, wire, and antenna, was replaced.*



## RECOGNITION

**PROUD.** The systems team working the night of January 19th deserves to be recognized for how they handled a system failure that night. One Shell was conducting maintenance when water leaked onto some highly sensitive telephone cable causing an outage. It was an unpredictable situation as RCS wasn't notified of any activity that could potentially affect equipment. The systems team acted immediately, with a sense of urgency to get the customer's radio service back on. They also worked closely with NOAA as their weather transmitting equipment was knocked out for the same reason.

The call came in from the OEC at 22:50 that night, and at 3:38 that morning, HEC consoles were on an alternate microwave path so dispatch consoles could be operational. The team still had to follow up with vendors on permanently repairing the damaged cable. At 12:55 on January 21st, remote sites were placed back in service.

Each team member was individually strong enough to begin diagnostics and remediate backup immediately. The team's manager, Rob Stagg, arrived onsite sometime around 3:00am. The team relayed information back and forth so Rob could make the most informed decisions on each action. Down time has been cut for outage recovery since each technician has been equipped with their own tools, and also because of the weekly ongoing training. Every technician now has enough interchangeable repair responsibility, and it's no longer necessary to wait for a more experienced technician to arrive, before beginning repairs.

When neither Todd nor Tom get a phone call in the middle of the night on a failure like this, it reflects the confidence the customer had in the team that kept them informed of the progress to get back online.

Long story short, Brandy Helms, Luis Jones, Mark Howell, James Holbrook, and Nick Curran proved what a strong systems team we have. In the heat of the moment, they kept their cool. It was the kind of teamwork that every organization strives to embody. On behalf of the firefighters and EMS, who rely on their radios to help Houstonians in the worst moments of their lives, thank you all.



Mayor Annise Parker spoke at the Leadership Institute Program (LIP) graduation, and showed her appreciation to the graduates for choosing to serve the citizens of Houston, and for enhancing their service by committing to the LIP program.

Leadership Institute Program (LIP) was created to implement leadership and succession planning that develops strong, confident leaders in management and supervision at all levels at the City of Houston.



Mayor Parker, Assistant Director and LIP graduate Todd Johnson, Deputy Director Tom Sorley, and Director of Human Resources, Omar Reid.



Todd would like to thank those members of the RCS team who came to show their support at the graduation ceremony.

Todd stands with fellow Houston Information Technology graduates Tann Cooper and Nathan Haack. Congratulations to all three on this accomplishment.



Happy Retirement Steve—RCS threw Steve Harris a retirement party to show how much he will be missed. Kudos to those who planned the party and got the refreshments set up in the meeting room at Dart St. Tom Sorley presented Steve with a proclamation from Mayor Annise Parker, thanking him on behalf the citizens of Houston, for his 16 years of service. A lot of Steve's friends that worked with him over the years came out to wish him well and congratulate him.

We wish Steve the very best. Dart Street will not be the same without him!



Above, Tom Sorley presents Steve with a proclamation from the Mayor thanking him for his service to the Houston Fire Department and Radio Communications Services.

Far left, Todd Johnson, Steve's manager, presents Steve with a Plaque of Appreciation from the Radio Communications Services team. Left, Herbert Hughes congratulates Steve on his retirement.

## EMPLOYEE INTRODUCTIONS


**MOTOROLA**

### Heather Lemm

What is your current position and background? I am a receptionist/administrative assistant with over 15 years experience in the administrative field. I entered the administrative field when I was 13 years old under my mother's guidance.

What do hope to see come out of the COH - Radio project? I'm excited to see the city have the opportunity to update their radio system. As a resident in the Houston area, I can see how this will affect the city as a whole and for the better.

What do you do when you're not at work? I love to cook and bake from scratch. I enjoy going to church and doing anything outdoorsy. Sometimes I write poetry, or research organic health remedies. I just love spending time with my family and friends, since they are so wonderful.

If you could have special powers, what would they be? The ability to make each individual feel cared or loved unconditionally with the touch of my hand.

What's your favorite movie/TV shows? A few favorite movies I enjoy are *Seven Brides for Seven Brothers*, *Quiet Man*, and *Princess Bride*. A few television shows I enjoy too are *Wipeout*, *The Voice*, and *the Big Bang Theory*.

What was the best vacation you ever took? Few years ago my family and I went to Bastrop State Park in Texas and stayed in a log cabin there. I loved being out in the woods away from the world just relaxing and enjoying nature at its best. Seemed so quiet and calming just to get to fish all day. The park was in one of the last wildfires unfortunately, but still plan to go back.

What do you miss most about the 80's? Let's see between the music, parachute pants, my LA gear clothes, and the big hair that seemed to be my thing then. What I miss most is my family as in my parents and brothers gathered around the television watching Star Trek. The episodes with Captain James T. Kirk.

What are some words your friends would use to describe you? Hard-headed, bluntly honest, and smarty pants..oops that's two words each. Kind, sweet, determined, unique, supportive, loving, and intelligent.

What was one or two of your proudest moments? Proudest moments was when I was caregiving for my mother before her death and the doctor tells me that she lived 10 years longer than he expected her to due to my care. I felt so accomplished since my goal was to extend her life, which I had done successfully. Next proudest would be of my oldest son who is 13 years old, He is so intelligent. He plays tuba for his middle school. He went to solo & ensemble and played a piece of music he had never seen before, which is called sight reading. He didn't miss a note and played like he had been practicing it for days. I'm so proud to call him my son.

If you could throw any kind of party, what or who would it be for? Would love to throw a New Years Eve party. One with my closest family and friends there to enjoy the music, food, and fireworks display. What a night that would be!

12. What is your favorite food or meal? Favorite meal would be what my mother use to call our "German meal," smoked sausage, mashed potatoes, sauerkraut, and green peas. Then top it off with Homemade Lemon Cake.



Heather

ITD Radio Communications Services and Motorola are located:

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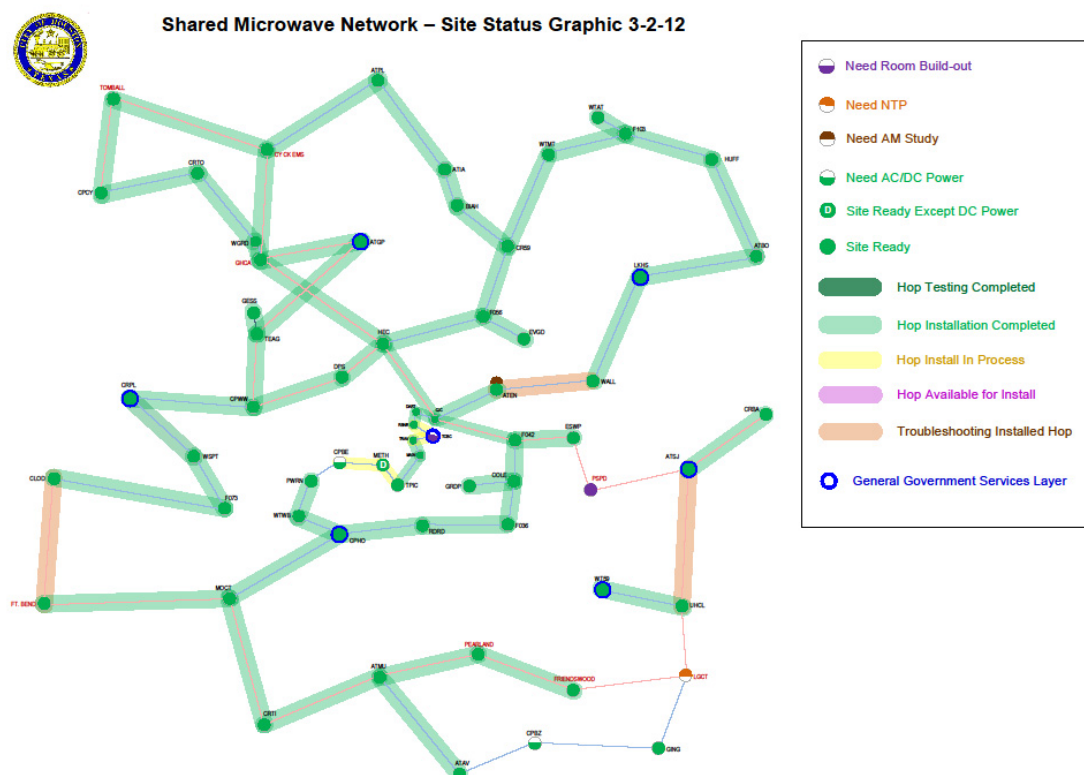
## Chayne Pieri

If you could throw any kind of party, what or who would it be for? **St. Patrick's Day, I'm Irish**



Chayne

HFD is also finalizing details of their cutover plan to the Interim system. A step by step procedure for fire and telemetry is being developed by the fire department in ongoing meetings with Motorola and RCS. Just as with the general government services, fire's channels are mirrored on the M2 Interim GGSL system.





## TRAINING CORNER

Every HFD employee that came in on vehicles getting new mobiles installed had a hands on training session. A mobile programmed for HFD was provided so that radio users would not only see the radio, but be asked to perform the task of switching zones before they left the location.

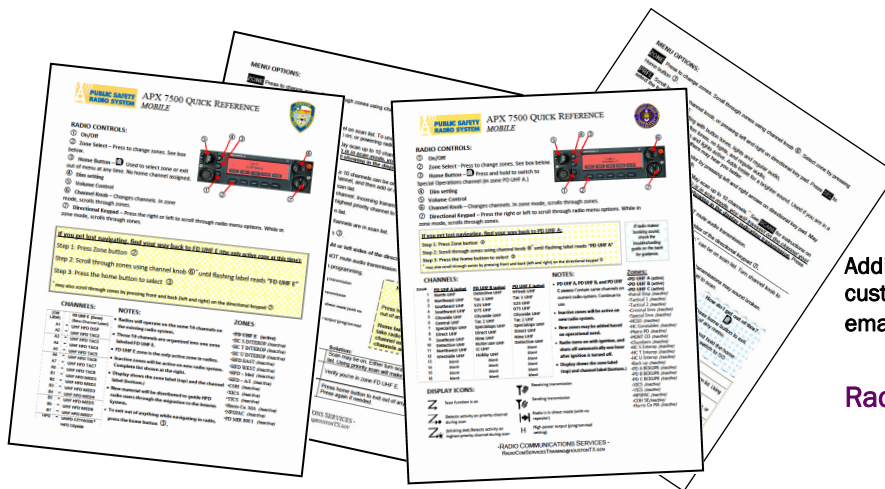
*The Frequency* reported that both HFD and HPD created training videos for their new radios in the previous newsletter. To supplement these training videos, "Quick Reference Guides" or cheat sheets were distributed to every vehicle that had mobiles replaced. One was created for police radios, and one was created for fire radios.

The guides both list all the menu options, and have instructions on how to switch zones. It covers the basic operation of the radios, and is meant to be a supplement to the training so that radio users will have something to refer back to, if needed.

So far, there haven't been any major changes in how the radios operate. Every radio user still has the same channels as before, and in the same order. As we approach the migration onto the Public Safety Radio System, there will be training on the new radios as they work on the new radio system.



Lonnie Taylor performs quality control and makes sure the firefighters knew how to use their new radios.



Additional Quick Reference Guides can be found at our customer service location at 1205 Dart St, or by emailing:

[RadioComServicesTraining@HoustonTX.gov](mailto:RadioComServicesTraining@HoustonTX.gov)



Technicians throughout RCS are training up to get ready for instructor-led training facilitated by Motorola. This upcoming training will focus on how to maintain and manage the new radio system. The three prerequisites are: Bridging the Knowledge Gap, Introduction to Astro 7.9, and Introduction to System Management Applications.



### COML

Six RCS employees completed the FEMA training to be Communications Unit Leaders (COML.) They are: Rob Stagg, Herbert Hughes, Nick Curran, Chayne Pieri, and Brandy Helms. Marc Vaughn is also a COML, and will be doing a second qualifying book here at the City of Houston.

The COML is responsible for integrating communications, both operationally, and technically, at an incident. He or she must understand Incident Command System (ICS) principles to work with the local response teams and support the command team. The Department of Homeland Security developed the COML program in 2007 after identifying needs in communications in the emergency response community.

Those who complete COML training are giving binders to keep track of events they support throughout the year. FEMA has assigned certain people at each agency to sign and recognize the COML's successful efforts at each event. Last year two of the qualifying events were the MS150 and Final Four Basketball Tournament. There are six events scheduled this year in Houston that our COMLs will participant in.

*The Frequency* will keep you updated on upcoming events our own COML's will be supporting in the community.

## NEWS AND HAPPENINGS

### Welcome

The city has brought Charles Thompson onboard as the new CIO of Houston Information Technology (HIT.) Charles came from Phoenix where he was CIO since 2007, and he has an impressive history including a Master's degree in Operational Analysis from the University of Maryland, Baltimore County. Certifications include: Lean Six Sigma Greenbelt, Intermediate Service Operation, CGEIT (Certified in the Governance of Enterprise IT, ITILv3 Foundation (Information Technology Infrastructure Library in IT service management), and from the Federal Council of CIO's.

Enough of his bio. What's he *really* like? He mentioned in his first All Hands Meeting on February 14th that he wants to know if employees would recommend working at HIT to a friend. If not, then what needs to change to make it attract more talent? Charles has been known to stop and chat with various people and ask them about their day-to-day tasks or projects. When it comes down to describing his management philosophy, just remember ART: Accountability, Responsibility and Teamwork.



He is open to hearing about issues, or more accurately put, opportunities to do things better. Just remember that you will get your point across much better if you're able to list the resources needed, and specify what decisions you'd like him to make. In other words, if you're going to seek resolution to an issue, don't expect someone else to figure out exactly what the issue is. Bring your thought out ideas, and be a part of making things better.

Charles thinks an organization should be made up of teams that have managers, rather than some who are supervisors and others who are under them. If you get a chance to talk to him, call him Charles instead of Mr. Thompson, and welcome him to Houston.

**TESTING 1, 2, 3.** Four participants from HFD were sent to Plantation, Florida to make recordings in a controlled recording studio. These recordings will be used for the high noise test to satisfy contractual obligations on the infrastructure's radio transmission quality.

When testing takes place in the upcoming months, these recordings will be used with various sounds in the background, like buzz saws and sirens. HFD will have several firefighters evaluate how well they hear these recordings with the background noise, on the new 700MHz system. The recordings will make sure that there is no variation in transmission except for the infrastructures that will be compared.



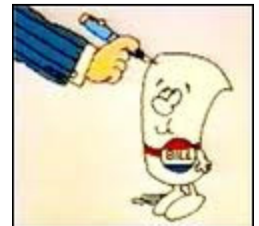
From left to right: Captain Griffiths, Captain Hollick, Chief Griffin, and firefighter Villareal make recordings that will be used for high noise testing.

## Congress Passes D-Block Allocation for Public Safety– February 17, 2012.

The U.S. House and Senate passed H.R. 3630, the Middle Class Tax Relief and Job Creation Act of 2012.

Efforts to pass this legislation has been ongoing for several years by those who work in public safety. Now the portion of the 700MHz wireless airwaves, known as the D Block, will be used to get a nationwide, wireless, broadband network up and running. This block will be dedicated solely to public safety, and known as the public safety broadband network (PSBN.) The system will be managed and built by the First Responder Network Authority.

The new legislation will provide \$7 billion to build this nationwide PSBN, and it will allow states to develop their own networks, as long as the same protocols as the national system are used. An additional \$300 million was set aside for research and development of the next generation of public safety communications. Another \$115 million was set aside for the next generation of 9-1-1.



President Obama supported the legislation, and vowed to make it official by signing the D Block legislation. It is one of the most significant events to happen in the history of public safety communications since the radio was first introduced to using in the 1930's.



Deputy Director Tom Sorley (left) was asked to testify before the White House Subcommittee on Technology and Innovation in October of 2010.

The First Responder Network Authority (FirstNet) was established with H.R.3630, and will manage and build out the nationwide system that will be known as the Public Safety Broadband Network (PSBN.)

The delivery of more radio spectrum with improved connectivity for public safety communications was one of the recommendations stated in The 9/11 Commission Report. The widespread adoption of newly developed standards was also encouraged, and has been more commonly practiced.

The City of Houston has already begun paving the way to incorporate broadband data into the Public Safety Radio System's network. We are anticipating meeting the city's public safety needs with this next generation of technology.



## NEWS AND HAPPENINGS

### QUALITY CIRCLE

Thank you to those who organized and put on the first Quality Circle event. Several put in their time to make sure the bowling night was enjoyable for the whole gang. Hopefully, it will be the first of many in the future. Rob Stagg was the RCS representative, who helped with the launch of the Quality Circle.

Houston Information Technology employees came out with their families to socialize and get their bowling on.

To refresh your memory, the Quality Circle is a tool in which representatives from all over Houston Information Technology gather to discuss opportunities to do things better. One of those items brought up was a desire to get to know coworkers in a relaxed environment outside of work.

This first event was a success, with a great turnout.



The price to bowl and play games was a cheap night out. (Thank you to those who kept the costs low.) And they brought in food, and set

up a concession, which was very affordable. The event raised money for more events in the future. Looking forward to those!

*Pictured Right, The bowling alley brought out the competitiveness in some, and some socializing in others.*



*Brandy gives it his all, and got strike after strike after strike. Even this picture was taken after one of his strikes.*



*The kids got to play all the air hockey, pool and foosball that they could, and didn't want to leave.*



*The grownups got to play all the air hockey, pool and foosball that they could, and didn't want to leave.*



*Pictured below, left to right: Kyria helps with the door prizes. Todd Johnson keeps his eye on the ball. Everyone watches on as it gets competitive.*





## NEWS AND HAPPENINGS



**Royal Malaysian Police Visit**—The Royal Malaysian Police (RMP) got a glimpse of how communications is used in day-to-day police work during their visit to Houston.

RMP replaced its analog radio system with digital in 2010, and is now looking into upgrading that system to support data, as well as voice. Another upgrade will include more coverage to make the system nationwide, and even include the two states located on Borneo, an island off the Malay peninsula. While the RMP works with police forces worldwide, their new radio system will provide TETRA interoperability to their neighboring police forces that share their borders, and TETRA compatibility: Indonesian National Police, Royal Brunei Police Force, Royal Thai Police, and Singapore Police Force.

As far away as these countries may be, we all have the same goals in our jobs — to provide the safest and most reliable communications as possible for the first responders, and the citizens they serve.



Above: visitors from the Royal Malaysian Police met with George Ebel from Motorola (fourth from left) and Todd Johnson from RCS (second from left.)



Above left to right: RMP tour the OEC and learn how Houston handles emergency response. The tour included a look inside the command van and its capabilities. Todd Johnson exchanges patches with a member of the RMP.



### FIRE SUPPRESSION GEAR—WISH IT GREW ON TREES...

Many thanks to Chief Stone and the firefighters who came in to give feedback on a prototype neck microphone Motorola has been developing.

**Moving Day** Equipment is delivered to the Network Operations Center at the HEC. The NOC will host the monitoring equipment for the new radio system.



**January 9th Heavy Rains** The city got a couple inches of rain within a few hours that had our public safety personnel stretched in all directions.

It was reported that HFD used city dump trucks to evacuate children to safety after their school flooded. *The Frequency* didn't get a chance to find out the logistics of the maneuver, but there must have been several people holding radios, wondering if the new radio system will somehow make events like that easier. Yes, it will.

Once the new radio system is completed, anyone with a city radio, will be able to turn the radio to any of 8 COH channels and be able to speak to anyone else with a city radio on these channels. Police, Fire, and General Government all decided to have this feature for such occasions.

Pictured left Bay of Riesner during the heavy rains. Special thanks to James Graveline for letting us use this photo.



## GOOD TIMES AND CELEBRATIONS!



Tyrone shows off his dancing Santa cap.

Karla got a shake weight at the white elephant gift exchange. She keeps it in her office in case anyone still wants to trade. Anyone?



Herman is either coaching Lonnie, or he's telling one of his motorcycle stories that HFD's ambulance reminds him of.



Herman hopes that there will be at least one day cold enough this winter to wear his new penguin head warmer.



Angie shows off her smiley tortilla. Can't take her anywhere...

HPD thinks Kurt's a pleasure to work with. Thia, at Northwest Patrol, confirmed this to *The Frequency*!



Seen around town: SETRAC took it's Mass Casualty—Evacuation Ambulance out for a spin and showed it off to the public. The ambulance can transport 24 patients at a time.

A very important message to the individual who brought the double-stuffed Oreos to the project office kitchen, and left them there: *We're out again.*



## WHAT'S THE DEAL

What's the deal with talking to County? Will HFD and HPD really be able to talk to them? When?

HFD and HPD will be able to talk to county once Harris County is ready to take on the city's radios, then they will be activated. Harris County is going through its own radio system upgrade to digital, so once that's completed, HFD and HPD can add more agencies if they desire. In the meantime, COH public safety has the NPSPAC channels programmed in their radios. Its also possible to have access to Harris County Mutual Aid channels before HFD and HPD actually cutover to the new 700MHz system.



If you want to play "What's the Deal?" just drop an email to [RadioComServices@HoustonTX.gov](mailto:RadioComServices@HoustonTX.gov)

Anyone can send an email with radio project related questions. Your question may be featured in *The Frequency*. If there's something you want to know, come get a first-hand response.